



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,274	04/01/2004	Eitaro Morita	8305-244US (NP151-1)	8814
570 7590 01/09/2008 PANITCH SCHWARZE BELISARIO & NADEL LLP ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			EXAMINER MCAVOY, ELLEN M	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center"><b>Office Action Summary</b></p>	<p><b>Application No.</b></p> <p align="center">10/816,274</p>	<p><b>Applicant(s)</b></p> <p align="center">MORITA, EITARO</p>	
	<p><b>Examiner</b></p> <p align="center">Ellen M. McAvoy</p>	<p><b>Art Unit</b></p> <p align="center">1797</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are still rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (6,617,286), Ogano et al (6,638,897) and Bovington et al (6,720,293), considered separately, and optionally in further view of Watts et al (6,613,722).

Applicant's arguments filed 01 August 2007 have been fully considered but they are not persuasive. As previously set forth, Sato et al ["Sato"] disclose a lubricating oil composition for continuously variable transmissions which comprises a lubricating base oil made of mineral oil and/or a synthetic oil formulated with a phosphorus-based wear preventive additive (A), a metal detergent additive (B) and an ashless dispersant additive (C). Sato teaches that the base oil component has a kinematic viscosity ranging from 0.5 to 200 mm<sup>2</sup>/s at 100°C, preferably 2-25 mm<sup>2</sup>/s at 100°C, and that mixtures of mineral oils and synthetic oils may be used in combination. See column 3, line 43 to column 4, line 43. The phosphorus-containing wear preventive used as component (A) includes phosphate esters and phosphite esters which may contain sulfur atoms. Sato teaches that the amount of the additive is within the range of 200-500 ppm as phosphorus (P) based on the total weight of the composition. See column 4, lines 48-63. The metal detergent additive (B) includes overbased calcium salicylates having a TBN ranging from 10-450 mg KOH/g. Sato teaches that the amount of metal detergent is preferably in the range of 100-1000 ppm as a metal content based on the total weight of the composition. The ashless

dispersant additive (C) includes boron-containing succinimides. See column 5. Sato allows for the addition of other additive to the composition including non-borated imide ashless dispersants. See column 6. Thus, the examiner maintains the position that the compositions of Sato clearly meet the limitations of the above rejected claims.

In response, applicant amended independent claim 1 and argued that Sato indeed teaches boron-containing succinimides but does not teach or suggest non-borated succinimides represented by formula (3) or (4) as claimed. This is not deemed to be persuasive because, as set forth above, Sato teaches that the lubricating oil compositions may contain other additive components including ashless dispersants in an amount of 0.1 to 10 weight % such as imide compounds that include monoimides, bisimides, and the like. Watts et al ["Watts"] is added to teach that the bisimides of applicant's claims, as amended, are well-known in the art as additives to lubricating oil compositions which are suitable for use in continuously variable transmissions. The non-borated succinimide component is set forth in column 10 wherein substituent groups  $R_7$  are alkyl groups containing 6-30 carbon atoms. Applicant also argued that claim 2, as amended, includes a sulfur-phosphorus additive represented by formula (1) or (2) and ammonia and amine salts thereof which is not taught or suggested in Sato. This is not deemed to be persuasive because Sato teaches in column 4, lines 53-56, that the phosphorus-based wear preventive used as component (A) in the invention includes acid phosphate ester amine salts, acid phosphite ester amine salts, and acid phosphonate amine salts. Sato further teaches that in the phosphate or phosphite esters, sulfur may be contained in the compounds. Thus the examiner maintains the position that Sato alone or in combination with Watts clearly meets the limitations of the claims.

Ogano et al ["Ogano"] disclose a lubricating oil composition for internal combustion engines comprising a base oil composed of a mineral oil, synthetic oil, or mixtures thereof, incorporated with (A) an overbased calcium salicylate having a TBN in the range of 30-100 mgKOH/g in an amount of 0.05 to 0.90 weight % as calcium, and (B) a succinimide selected from the group consisting of (1) a boron-containing succinimide having a weight-average molecular weight of 3,000 or less at 0.04 weight % or less as boron, and (2) a non-borated succinimide having a weight average molecular weight of 3,000 or less at 0.01 to 0.25 weight % as nitrogen, and (3) mixtures thereof. See column 3, lines 7-53. Ogano teaches that the base oil may be used either individually or in combination and the oil(s) have a kinematic viscosity in the range of 2 to 20 mm<sup>2</sup>/s at 100°C. Ogano allows for the addition of other additives to the compositions that include phosphoric acid esters and phosphorous acid esters as antiwear agents which may be used in amounts of 0.1 to 5 % by weight. See column 7. Thus the examiner maintains the position that all of the components of applicant's claims are taught by Ogano.

Applicant argued that the presently claimed composition contains a non-borated succinimide having formula (3) or (4) which differs from Ogano which teaches that the Mw of the non-borated succinimide component is 3000 or less, preferably 2100 or less. Applicant argues that the non-borated succinimides disclosed in the Examples in Ogano contain molecular weights between 2335 and 2837 which are far greater than the molecular weights of the claimed compounds of 621 for the mono-imide and 1053 for the bis-imide. This is not deemed to be persuasive because the disclosure of Ogano is not limited to the Examples, but to what is fairly taught to one of ordinary skill in the art which is that the non-borated succinimide component may have a molecular weight of 3000 or less, preferably 2100 or less. The examiner is of the

position that the molecular weights of 621 for the mono-imide and 1053 for the bis-imide of the claims for succinimide component (D) is within the disclosure of suitable non-borated succinimide compounds taught in Ogano.

Applicant argues that the succinimide of Ogano has a polyalkenyl or polyalkyl structure (i.e., an alpha-olefin oligomer structure) which is completely different than the claimed structure having an alkyl or alkenyl group with 12-25 carbon atoms. This is not deemed to be persuasive because there is no structural difference between an olefin oligomer which contains straight or branched chain alkyl and alkenyl (an alkyl group containing a double bond) groups and the claimed alkyl or alkenyl group with 12-25 carbon atoms. Applicant also argues that Ogano does not teach or suggest the claimed sulfur-phosphorus additives as set forth in amended claim 2. This is not deemed to be persuasive because Ogano teaches in column 7 that suitable extreme pressure agents include phosphoric acid amines.

Bovington et al ["Bovington"] disclose a low viscosity lubricating oil composition having no more than 0.16 mass % of phosphorus, preferably less than 0.09 mass % phosphorus, which comprises a lubricating oil basestock and, as additives, (a) from 1-10 mass % of a dispersant including both borated and non-borated succinimides, (b) 0.05 to 0.6 mass % of elemental calcium derived from one or more detergents, and optional additives including zinc dihydrocarbyl dithiophosphate, an antioxidant, a pour point depressant, and a viscosity modifier. See column 1. Bovington teaches that usually the dispersants contain from about 0.01 to 0.1 mass % boron, as elemental boron. See column 5. Bovington teaches that the detergent component can have a TBN in the range of 15 to 600, and that suitable detergents include

calcium salicylates. See column 6. The examiner maintains the position that the compositions of Bovington meet the limitations of the above rejected claims.

Applicant argues that the presently claimed composition contains a non-borated succinimide having formula (3) or (4) which differs from Bovington which teaches that the Mw of the polyisobutenyl group is from 950 to 3000 which is outside the molecular weight range of the claimed compounds of 439-1053. This is not deemed to be persuasive because Bovington discloses a broader molecular weight range of 300 to 20,000 for the oil-soluble polymeric hydrocarbon backbone of the dispersant component. See column 3, lines 13-55. The examiner is of the position that the molecular weights of 621 for the mono-imide and 1053 for the bis-imide of the claims for succinimide component (D) is within the disclosure of suitable non-borated succinimide compounds taught in Bovington.

Applicant also argues that Bovington does not teach or suggest the sulfur-phosphorus additive in dependent claim 2 which is an ammonium or amine salt. This is not deemed to be persuasive because Bovington discloses both metallic and ashless phosphorus and sulfur-containing compounds in the invention. See column 7, line 37 to column 8, line 40. Although ammonium and amine salts of the phosphorus-containing compounds are not specifically set forth, Watts discloses amine salts of organic phosphates as conventional additives in lubricating oil compositions. See column 5, line 62 to column 6. The examiner is of the position that it would have been obvious to the skilled artisan to have added a conventional phosphorus-containing additive such as an ammonium or amine salt of an organic phosphate to the composition of Bovington if its known imparted property was so desired.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

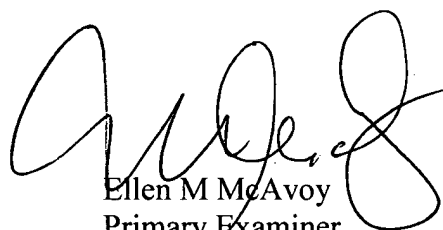
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR



Application/Control Number:  
10/816,274  
Art Unit: 1797

Page 8

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ellen M McAvoy  
Primary Examiner  
Art Unit 1797

January 4, 2008